

KSR Int'l Co. v. Teleflex Inc., slip op. at 14 (emphasis added). As discussed below, the cited art cannot render the claimed invention obvious.

ii. The Present Claims Are Not Obvious

As noted above, none of the cited references teaches every element of the claimed invention. In addition, the surprising findings of the present application would not have been obvious based on the prior art's teachings. The claimed invention is derived from the finding that polymer electrolytes which satisfy the formula $1 > R \geq 0.15$ exhibit lower methanol permeation coefficients than polymer electrolytes failing to satisfy the inequality, as evidenced by the data provided in Table 2. The inventors identified the use of such a polymer electrolyte satisfying the above inequality as a constituent of a direct methanol-type fuel cell and which would contribute to the reduction in overvoltage at a cathode of this specific type of fuel cell. *See* page 1, line 10 to page 4, line 10 of the Specification regarding the Background of this issue.

None of the cited references teaches or suggest that polymer electrolytes satisfying the formula recited in claim 1 are so low in their methanol permeation coefficient that they are suitable as a constituent of a direct methanol-type fuel cell. Therefore, the subject-matter of the current claims, i.e., the direct methanol-type fuel cells comprising a polymer electrolyte specified by this formula, are not obvious over any of the cited references. As noted above, Iwasaki makes no mention of a direct methanol-type cell and does not recite the term methanol. Although methanol appears in Charnock it is only as part of an acetone/methanol wash. Finally, Hickner does not teach the importance of the claimed ratio (R) or any ratio at all for the polymer.

Therefore, at least in view of the foregoing, the Applicants respectfully request that the obviousness rejection be withdrawn.

CONCLUSION

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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By BA

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